## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 22 September 2005 (22.09.2005)

**PCT** 

## (10) International Publication Number WO 2005/087586 A1

(51) International Patent Classification<sup>7</sup>: F17C 1/00, 9/04

B63J 5/00,

(21) International Application Number:

PCT/FI2005/050072

(22) International Filing Date: 10 March 2005 (10.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

20045081 17 March 2004 (17.03.2004) FI

- (71) Applicant (for all designated States except US): WÄRT-SILÄ FINLAND OY [FI/FI]; Tarhaajantie 2, FI-65380 VAASA (FI).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): KACKUR, Johnny [FI/FI]; Airikintie 1 F 28, FI-20100 TURKU (FI).
- (74) Agent: AWEK INDUSTRIAL PATENTS LTD OY; P.O. Box 230, FI-00101 HELSINKI (FI).

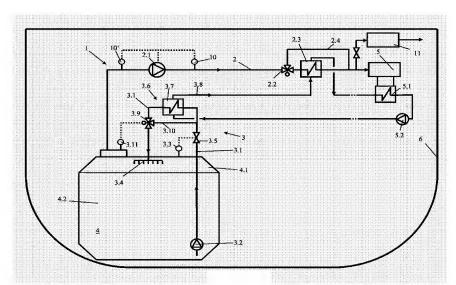
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

 $({\bf 54})$  Title: GAS SUPPLY ARRANGEMENT OF A MARINE VESSEL AND METHOD OF PROVIDING GAS IN A MARINE VESSEL



(57) Abstract: Gas supply arrangement (1) of a marine vessel (6) being adapted to carry liquefied gas in its gas tank (4) having an ullage space section (4.1) and a liquid phase section (4.2), which arrangement provides the gas for demands of the vessel, the arrangement comprising: a gas supply line (2) provided for delivering the gas formed in the gas tank to a consumption device (5); a piping (3.1) extending from the liquid phase section (4.2) to the ullage space section (4.1) of the gas tank (4) being provided with at least a pump (3.1), for introducing gas into the ullage space section. The piping is provided with a heat transfer unit (3.6) for effecting on the temperature of the introduced gas. Invention relates also to method of providing gas in a marine vessel (6) with liquefied gas tank.



## 

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.